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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,576	03/22/2004	Robert Tod Dimpsey	AUS920040061US1	2219

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EXAMINER

MASDON, DAVID T

ART UNIT

PAPER NUMBER

- 2188

DATE MAILED: 05/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/806,576

Applicant(s)

DIMPSEY ET AL.

Examiner

David Masdon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/30/05 & 3/27/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Double Patenting*

Current application 10/806576 (instant) and Pending US Application 10/806094 were found to have obviousness-type double patenting issues.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-8, 10-20 and 22-24 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 6-8, 10-14, 16-19 and 22-28 of U.S. Application No. 10/806,094. Although the conflicting claims are not identical, they are not patentably distinct from each other because independent claims 1, 10, 13 and 22 of the current application are anticipated by the respective independent claims 1, 13, 17 and 26 of the pending application. Also, the dependent claims 2-8, 11-12, 14-20 and 23-24 of the current application are anticipated by the claims 2-3, 6-8, 10-12, 14, 16, 18-19, 22-25 and 27-28 of the respective patent.

With respect to claim 1 of the current application, please refer to the table below, which illustrates the anticipatory relationship of the claims at issue.

<u>Current Application</u>	<u>Pending Application</u>
1. A method in a data processing system for generating coverage data for accesses to data during execution of code in the data processing system, the method comprising: responsive to executing an instruction in the code at a processor in the data processing system, determining whether an access to a memory location associated with a data access indicator has occurred; changing a state of the access indicator by the processor when the instruction is executed, the data access indicator is associated with the memory location, wherein coverage data is generated during execution of the code by the processor.	1. A method in a data processing system for generating coverage data during execution of code in the data processing system, the method comprising: responsive to executing an instruction in the code by a processor in the data processing system, determining whether an access indicator is associated with the instruction; and if the access indicator is associated with the instruction, changing, by the processor, a state of the access indicator when the instruction is executed, wherein coverage data is generated during execution of the code by the processor.

### ***Information Disclosure Statement***

1. The information disclosure statements (IDS) were submitted on 6/30/2004 & 3/27/2006. The submissions are in compliance with the provisions of 37 CFR 1.97 and 1.98, except as noted below. Accordingly, the information disclosure statements are being considered by the examiner, except as noted below.

Application 10/757,192 (labeled CE on page 3) submitted on June 30, 2005 is not being considered. The is a duplicate application number and is incorrect.

NPL articles labeled BJ and BM (on page 2), submitted on June 30, 2005, are not being considered because they are not in an English translation.

***Drawings***

2. The drawings filed on 3-22-2004 have been approved by the examiner.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 5-15, 17-24 rejected under 35 U.S.C. 102(b) as being anticipated by Hervin et al (US 5,805,879).

With respect to claim 1, Hervin discloses a method in a data processing system for generating coverage data for accesses to data during execution of code in the data processing system, the method comprising:

responsive to executing an instruction in the code at a processor in the data processing system, determining whether an access to a memory location associated with a data access indicator has occurred; and [(processor determines if the access indicator is to be set) column 3, lines 37-39]

changing a state of the access indicator by the processor when the instruction is executed, the data access indicator is associated with the memory location, wherein

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coverage data is generated during execution of the code by the processor. [(whenever a memory is first accessed, set the access indicator associated therewith) column 3, lines 27-29]

With respect to claim 2, Hervin discloses the method of claim 1, wherein the changing step comprises:

receiving a signal at a data cache in the processor from a completion buffer in the processor; and [(segment descriptor is retrieved from memory) column 4, lines 24-43]

responsive to receiving the signal, changing the state of the access indicator by the data cache. [(when memory is accessed, the access indicator bit is changed) column 4, lines 24-43]

With respect to claim 3, Hervin discloses the method of claim 1, wherein the access indicator is located in a field in the instruction. [(instructions load segment access indicator) column 4, lines 14-24]

With respect to claim 5, Hervin discloses the method of claim 1, wherein the access indicator associated with the instruction is located in a page table. [(page tables in memory) column 8, line 52]

With respect to claim 6, Hervin discloses the method of claim 1, wherein the memory location accessed during the execution of the code have set data access indicators when the state of the access indicators associated with the executed

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instruction are changed, while the memory location un-accessed during the execution of the code have unset data access indicators because the state of the unset data access indicators remain unchanged. [(changing the memory access indicator only associated with the memory that is accessed) column 3, lines 27-29]

With respect to claim 7, Hervin discloses the method of claim 1, wherein data access indicators are associated with every memory location within the code. [(segment descriptor containing access indicator is associated with every segment of memory) column 10, lines 53-64]

With respect to claim 8, Hervin discloses the method of claim 1, wherein data access indicators are associated only with selected memory locations. [(to set access indicator associated with memory access by processor) column 13, lines 37-40]

With respect to claim 9, Hervin discloses the method of claim 1, wherein the memory location is at least one of a byte, (column 11, line 4) a word, (column 9, line 55) and a double word. (column 9, line 57)

Claims 10, 11 and 12 rejected with same rationale as claims 1 and 2.

Claims 13 and 22 rejected with same rationale as claim 1.

Claims 14 and 23 rejected with same rationale as claim 2.

Claim 15 rejected with same rationale as claim 3.

Claim 17 rejected with same rationale as claim 5.

Claims 18 and 24 rejected with same rationale as claim 6.

Claim 19 rejected with same rationale as claim 7.

Claim 20 rejected with same rationale as claim 8.

Claim 21 rejected with same rationale as claim 9.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4 and 16 rejected under 35 U.S.C 103 (a) as being unpatentable over Hervin et al (US 5,805,879) in view of Sederlund et al (US 6,647,301).



As per claim 4, Hervin et al does not disclose expressly the method of claim 1, wherein the access indicator associated with the instruction is located in a shadow memory. However, Sederlund et al discloses using a memory access error indicator with shadow memory. (column 38, lines 1-5)

Hervin et al and Sederlund et al are analogous art because they are from same field of endeavor, namely memory. At the time of the invention it would have been obvious to a person of ordinary skill in the art to incorporate the shadow memory of Sederlund et al into the system of Hervin et al. The motivation for doing so would have been to increase the versatility of the system of Hervin et al.

Claim 16 rejected with same rationale as claim 4.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Koning	6,735,666
Mutz et al	2004/0153612
Huck	2005/0091456
Bungo	2005/0108483

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Masdon whose telephone number is (571)272-6815. The examiner can normally be reached on Monday - Friday, 7am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (571)272-4210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DM  
Monday, May 01, 2006

*Mano Padmanabhan*  
5/1/06

MANO PADMANABHAN  
SUPERVISORY PATENT EXAMINER